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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,593	08/01/2003	Richard P. Kolb	WWCI0015.001	1592

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EXAMINER

ROJAS, BERNARD

ART UNIT	PAPER NUMBER
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2832

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/604,593

Applicant(s)

KOLB ET AL.

Examiner

Bernard Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-17,22 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5-9,28 and 29 is/are allowed.
- 6) ☒ Claim(s) 11-17,22,23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12/28/2006 have been fully considered but they are not persuasive.

Regarding Claim 11, the Applicant states that Myers [US 4,470,030] fails to teach the use of a return spring to bias the armature in cooperation with the magnetic attraction of the permanent magnet. As shown by Applicant, Meyers teaches "the magnet 160 will retain the armature in the moved position against the restoring force of a return spring..." [col. 5 lines 22-26]. Claim 11 merely states "a return spring to bias the armature in cooperation with the magnetic attraction of the permanent magnet", it does not require the force of the magnet and the spring to act in the same direction. The spring is working in cooperation with the magnet to bias the armature in that the latching force of the magnet is calculated to be larger than the force of the return spring so keep the armature in a latched position.

Regarding Claim 22, the Applicant states that Meyers fails to teach that the first magnetic circuit spaces the armature [128, 130] from the base [114]. In figure 5, Meyers shows a first magnetic circuit in which the armature is spaced away from the base when the coil is not energized and discloses that energizing the coil causes a second magnetic circuit that attracts the armature toward the base [col. 5 lines 10-26].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 12 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Myers [US 4,470,030].

Claim 11, Myers discloses an electromagnetic switching apparatus comprising:

a bobbin having a single coil [113, col. 2 lines 42 to 46] of wire wrapped there around;

a movable armature [128, 130] disposed within the single coil; and

a permanent magnet [160] separated from the armature by a non-magnetic spacer [141, 166] wherein the permanent magnet magnetically attracts the armature when the coil is de-energized and magnetically repels the armature when the coil is energized [col. 5 lines 10-26, when the coil is de-energized, the magnet latches the armature and when the coil is pulsed, the magnet repels the armature], wherein the non-magnetic spacer remains in a fixed position during movement of the movable armature [figure 5].

Claim 12, Myers discloses that an end plate [114] and attracting stud [115] connected to one end of the bobbin wherein the attracting stud attracts the armature when the single coil is energized [figure 5].

Claim 22, Myers discloses a single coil solenoid comprising:

a first magnetic circuit between a movable plunger [128, 130] and a permanent magnet [160] spaced from the movable plunger by a non-magnetic spacer [141, 166] at

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a first electromagnetic condition created when the single coil of wire is not energized [figure 5]; and

a second magnetic circuit between the plunger and a stationary attracting member [115] at a second electromagnetic condition created when the single coil of wire is energized, wherein the plunger is linearly spaced from the stationary attracting member by the first magnetic circuit and driven linearly towards the attracting member by the second magnetic circuit [col. 5 lines 10-26].

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17, 23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers [US 4,470,030].

Claim 13, Myers discloses the claimed invention with the exception of biasing the switch in a normally closed position by having a return spring bias the armature against the non-magnetic spacer. Myers discloses that a spring is used to bias the armature in a normally open position, away from the non-magnetic spacer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reverse the bias orientation of the spring in order to change the non-energized position of the armature to be either normally open or normally closed.

Claim 14, Myers discloses the apparatus of claim 13 wherein the armature is further configured to have a first polarity when the single coil is de-energized and a second polarity when the single coil is energized [col. 5 lines 10-26].

Claim 15, Myers discloses the apparatus of claim 14 wherein the second polarity matches a plurality of the permanent magnet [col. 5 lines 10-26, the pulsed second polarity cause the magnet to release the armature].

Claim 16, Myers discloses that the second polarity is opposite to a polarity of the end plate [col. 5 lines 10-26].

Claim 17, Myers discloses a plurality of shunt components [140, 100, figure 5] disposed radially around the actuator between the single coil and the permanent magnet.

Claims 23-27, Myers discloses an electromagnetic switching apparatus comprising: a bobbin having a single coil [113, col. 2 lines 42 to 46] of wire wrapped there around; a movable armature [128, 130] disposed within the single coil; and a

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permanent magnet [160] having a fixed polarity; an attracting stud [115] having a second polarity when the coil is energized, a non-magnetic spacer [141, 166] between the armature and the permanent magnet and a shunt [140] positioned a distance from the permanent magnet, a housing [100,168], an end plate [114] and attracting stud [115] connected to one end of the bobbin wherein the attracting stud attracts the armature when the single coil is energized [figure 5].

Meyers fails to teach providing the solenoid in kit form.

it would have been obvious for one of ordinary skill in the art at the time in invention was made to put the components in kit form in order to facilitate on-site assembly of the solenoids [figure 5].

Allowable Subject Matter

Claims 1, 2, 5-9, 28 and 29 are allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M and W-F, 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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19MAR2007